

Amendments to the claims:

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-40 (cancelled)

41 (new) A dry water resistant coaxial cable (10) comprising:

- a solid or hollow metal core conductor element (11);
- a dielectric element around the core conductor based on three layers, comprising:
 - a first layer (12) comprising a polymer mixed with an adhesive component and applied onto the core conductor as a uniform film;
 - a second layer (13) comprising a cellular high expansion polymer or a combination of cellular expansion polymer and swelling agent on the first layer; said cellular expansion polymer made of low dielectric coefficient polymer; and
 - optionally, a third layer (14) comprising a reinforcement layer on the second layer; said third layer having the same characteristics as the first layer;
- a second external conductor (15) surrounding the dielectric element;
- a second conductor element (16) on the second external conductor, comprising a water penetration protective element to keep the cable dry; said protective element based on one or more swellable fibers or tapes applied helically, annularly or helicoidally; and
- a protective cover (17) surrounding the second conductor element.

42. (new) The dry water resistant coaxial cable according to claim 41 wherein the metal core conductor element is selected from copper, aluminum, copper alloy, aluminum alloy, metal plated steel, steel plated, other metals, metal alloys or combinations thereof.

43. (new) The dry water resistant coaxial cable according to claim 41 wherein the first layer and third layer comprise a material selected from polyethylene or polypropylene;

wherein the material is thin, continuous and homogeneous; said material is mixed with an adhesive selected from vinyl adhesive, acrylic adhesive or combinations thereof.

44. (new) The dry water resistant coaxial cable according to claim 41 wherein the second layer comprises a swelling agent and a cellular high expansion polymer selected from low density polyethylene, medium density polyethylene, high density polyethylene, polypropylene, polyester or combinations thereof.

45. (new) The dry water resistant coaxial cable according to claim 44 wherein the swelling agent is selected from azodicarbonamide, p-toluene, sulphonyl hydrazide, 5-phenyl tetrazol or combinations thereof.

46. (new) The dry water resistant coaxial cable according to claim 41 wherein the second external conductor element comprises a material selected from aluminum, copper, aluminum alloy, copper alloy, other metals and metal alloy or combinations thereof.

47. (new) The dry water resistant coaxial cable according to claim 41 wherein the water penetration protective element comprises one or several swellable fibers or tapes selected from polyester threads, polyacrylamide, polyacrylic acid, polyacrylate fibers, other swellable fibers or combinations thereof.

48. (new) The dry water resistant coaxial cable according to claim 41 wherein the protective cover comprises a polymer selected from low density polyethylene, medium density polyethylene, high density polyethylene or combinations thereof.

49. (new)The dry water resistant coaxial cable according to claim 41, wherein the core conductor comprises a copper plated aluminum wire, having a uniform circular cross section of at least 3.15 ± 0.3 mm diameter.

50. (new)The dry water resistant coaxial cable according to claim 41, wherein the adhesive component is selected from vinyl adhesive, acrylic adhesive, ethylene acrylate acid, ethylene vinyl acid or combinations thereof.

51. (new)The dry water resistant coaxial cable according to claim 41, wherein the second layer is a reinforcement layer and is applied onto the core conductor, shows a better watertightness to the dielectric element which is swellable, and improves its superficial appearance; wherein it comprises at least 13.0 ± 0.10 mm diameter.

52.(new) The dry water resistant coaxial cable according to claim 41, wherein the second external conductor comprises a material selected from aluminum, copper, braided mesh of metal, alloy metal, other metals or combinations thereof; wherein the material is formed in a cylindrical pipe and can be longitudinally welded, extruded or the edges can be overlapped; and wherein the external conductor has a thickness of at least 0.34 mm and the diameter on the pipe is at least $13.70 \text{ mm} \pm 0.10 \text{ mm}$.

53. (new) The dry water resistant coaxial cable according to claim 41, wherein the water penetration protective element has an absorption speed of about 15 ml/g per minute and an absorption capacity of more than 30 ml/g.

54. (new)The dry water resistant coaxial cable according to claim 48 wherein the protective cover is medium density black polyethylene.

55. (new) The dry water resistant coaxial cable according to claim 48 wherein the

diameter of the protective cover is about 15.5 mm \pm 0.10 mm with about 0.67 mm \pm 0.02 mm thickness.

56. (new) The dry water resistant coaxial cable according to claim 45, further comprising antioxidants and a third layer (14) comprising a reinforcement layer on the second layer; said third layer having the same characteristics as the first layer.

57. (new) A method of preparing a dry water resistant coaxial cable according to claim 41, comprising the steps of:

- a) preparing a core conductor feeding reel welding its end onto another reel so that the manufacturing is continuous;
- b) passing the core conductor onto a first polymer film application through extrusion;
- c) extruding, based on second polymer layer mix with a swellable agent at high pressure invert gas injection to improve cellular expansion;
- d) optionally, coextruding a third polymer film having the same characteristics as the first polymer film;
- e) cooling the obtained core at room temperature to prevent deformation during winding;
- f) winding the cooled core and applying a pipe shaped external conductor element; wherein said pipe can be formed selected from a process consisting of welding, overlapping of the edges and extruding;
- g) applying the water penetration protection element by a process selected from a group consisting of helically, annularly and longitudinally; and
- h) applying the protective cover through extrusion.

58. (new) The method according to claim 57, further comprising manufacturing the core through triple extrusion in three extruders;

wherein one extrusion is for first layer; another extrusion for the second layer and

the other extrusion is for the third layer film, which are connected to an extrusion head.

59. (new) The method according to claim 57, wherein a) the second layer polymer comprises a swelling agent and a high expansion polymer selected from low density polyethylene, medium density polyethylene, high density polyethylene, polypropylene, polyester or combinations thereof; b) the first and third layer polymer is mixed with an adhesive selected from a vinyl adhesive, an acrylic adhesive or combinations thereof.

60. (new) The method according to claim 57, wherein the adhesive component is selected from vinyl adhesive, acrylic adhesive, ethylene acrylate acid, ethylene vinyl acid or combinations thereof and the swelling agent is selected from azodicarbonamide, p-toluene, sulphonyl hydrazide, 5-phenyl tetrazol or combinations thereof.

61 (new) The method according to claim 57 wherein step(b) is conducted comprising the steps of a) extruding; b) flooding the conductor in the insulating material; and c) removing excess material or through sprinkling.

62 (new) The method according to claim 57 wherein step (c) is conducted using single or double extruder (cascade) to obtain high cellular expansion polymer.

63. (new) The method according to claim 57 wherein the inert gas employed is selected from argon, nitrogen, carbon dioxide or combinations thereof.

64. (new) The method according to claim 57 wherein in step (f), if welding process was employed, it is conducted at high frequency; wherein after welding, the pipe is submitted to a trimming step; wherein the core external conductor

complex passes through a diameter adjustment box; said box comprising a

plurality of dices; and then lubricating the pipe and the dice.

65. (new) The method according to claim 57 wherein in step (f), if overlapping of edges was applied, the conductor goes directly to the diameter adjustment box without lubrication.

66. (new) The method according to claim 58, wherein in step (f), if applied through extrusion, the conductor element is selected from aluminum, copper, aluminum alloy, copper alloy, other metals, metal alloys or combinations thereof, comprising the steps of: a) unwinding a wire rod; b) penetrating the wire and core into an appropriate extrusion device to form a pipe; c) passing the core external conductor complex through a diameter adjustment box; said box comprising a plurality of dices; and d) lubricating the pipe and dice.

67 (new) The dry water resistant coaxial cable according to claim 41, prepared by a process comprising the steps of:

a) preparing a core conductor feeding reel welding its end onto another reel so that the manufacturing is continuous; b) passing the core conductor onto a first polymer film application through extrusion; c) extruding, based on second polymer layer mix with a swellable agent at high pressure invert gas injection to improve cellular expansion; d) optionally, coextruding a third polymer film having the same characteristics as the first polymer film; e) cooling the obtained core at room temperature to prevent deformation during winding; f) winding the cooled core and applying a pipe shaped external conductor element; wherein said pipe can be formed selected from a process of welding, overlapping of the edges or extruding; g) applying the water penetration protection element helically, annularly or longitudinally; and h) applying the protective cover through extrusion.